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ABSTRACT

A research/evaluation project was conducted to assess library needs, use, and services for nontraditional students, and construct an experimental library skills course. A survey of every tenth student assessed their needs for library services and facilities in relation to 17 personal factors, using the chi-square test to establish relationships. A new credit-bearing library skills course was developed with emphasis on individualized instrucion, and special efforts were made to recruit students who were starting or resuming college after several years out of school. Thirty-seven students completed the library skills course; over half of this group had had some interruptions in education. Data from a pretest and posttest and from other courses taken concurrently by this group were analyzed by t-test, multiple regression, and one-way analysis of covariance. Analyses showed that the students who took the course improved their library skills substantially, that interrupted students did not differ significantly from others in success with the course, and that taking the course did not significantly affect success in other courses taken concurrently. The library needs survey, a breakdown of responses, correlations between personal factors, the pretest, the posttest, and the course evaluation are appended. (Author/SW)

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Final Report

Project No. 475AH0084
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LIBRARY SERVICES FOR NONTRADITIONAL STUDENTS

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ABSTRACT

A research and demonstration project exploring library services for nontraditional students was carried out during 1978/79 at Eastern Michigan University. A survey of every tenth student assessed their need for library services and facilities in relation to 17 personal factors, using the chi-square test to establish relationships. In general, nontraditional students appeared to be less library-conscious than others.

A new credit-bearing library skills course was developed with emphasis on individualized instruction. Special efforts were made to recruit to the course students who were starting or resuming college after several years out of school. Over half of the resulting experimental group had had some interruption in education. Data from the three course sections and from other courses taken concurrently by the experimental group were analyzed by t-test, multiple regression, and one-way analysis of covariance. Analyses showed that the students who took the course improved their library skills substantially, that interrupted students did not differ significantly from others in success with the course, and that taking the course did not significantly affect success in other courses taken concurrently. There was not time to study the long-term impact of the course.

PREFACE

A project such as the one reported here could not have succeeded without help from many EMU people outside of the library. Cooperation from the Computer Center and the Academic Records Office was very important. Ann C. Kettles, Coordinator of Academic Advising and several Advisors gave valuable support. The heads of the two departments that sponsored the experimental course -- Dr. Scott Westerman of Curriculum and Instruction and Dr. Milton P. Foster of English Language and Literature -- were good partners.

Two people deserve special thanks. One is Dr. Charles Gale, Director of Research Development, whose expertise enabled us to get the grant and whose informed guidance helped us in many ways during the project year. The other is Dr. Gerald Thrasher, Director of Institutional Research, who patiently guided me through the intricacies of evaluation.

The members of the project team all made important contributions to the success of the project as described in the report. Special recognition is due to the three librarians who had primary responsibility for the library skills course: Margaret Best, Keith Stanger, and Hannelore Rader.

Pamela Reeves
Project Director

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I. INTRODUCTION

The Problem

Most American colleges and universities have, in the past decade or two, experienced significant changes in the nature of their student bodies. Besides shifts in relative enrollments between curricular programs, there has been a notable growth in the proportion of students who are in some way "nontraditional."

Academic librarians recognize that students' patterns of library use are affected by the kinds of courses they are taking. It appears that their library service and instructional needs may be affected by personal factors as well.

In a recent publication, Leo Munday identified nine types of "nontraditional" students who, counted together, comprise the majority of the post-high school student population. A sample of 10,000 Freshman (fall 1974) was surveyed as to educational goals and needs. The need most closely related to library service was the need for help with study skills, expressed by 50% or more of most nontraditional groups.[1]

Several other recent studies and reports have dealt with various types of nontraditional students, but very little attention has been given to their library needs or attitudes. Among those who do shed some light here is Marianne Nolan,[2] who described commuting and external degree students as "library-hoppers," indicating that libraries compete with each other for their patronage.

Sophia Stillerman compared part-time, full-time, day, and evening students at Portland State University with respect to their preferences between six methods of library use instruction.[3] (Her questionnaire also asked about reasons for coming to the library; little difference was

found here between the four groups.) Although not dealing directly with library concerns, a study of reentering students by Joan Lourie and Cynthia Mayo provides useful background information for library research and service targeted to students who are starting or resuming college education after some years out of school.[4]

At Eastern Michigan University some 45 percent of the student body have had their educations interrupted by at least a year, and 15 percent have had interruptions of five years or more. About seven percent of the undergraduates enrolled in Fall 1978 were just starting or reentering college after five or more years out of school.

Until the 1960's Eastern Michigan University was primarily a residential college attended by young people from around the state who were preparing to be teachers. Since then the dormitory population has dropped to 20% and the College of Education enrollment to less than a third. More recent changes, in addition to the appearance of reentering students, have been increases in the proportion of older, part time, and transfer students.

The Program

During the past year the EMU Center of Educational Resources has assessed the library service needs of nontraditional students and has prepared and implemented a library skills course designed to meet these students' instructional needs.

The needs assessment instrument was a two-part questionnaire mailed to every tenth enrolled student. The first part asked the respondent's level of need for 13 library services and facilities. The second part dealt with personal factors including those that identify students as nontraditional.

The library skills course was taught by librarians but

offered jointly through the English Department and the Curriculum & Instruction Departments. Students could take this two-credit course as ENG 200 or EDM 200; henceforth we will refer to it as EE 200.

Two sections of the course were given during the Winter Semester (January - April 1979) and one was given during the Spring term (May and June). Special efforts were made to recruit reentering students into the course. Altogether 37 students completed the course, half of them interrupted students and a third of them recently reentered. EE 200 was organized to meet students' individual needs, with personalized assignments related to each student's interests and/or concurrent courses and a good deal of one-to-one consultation.

Research

The 558 responses to the library needs survey (30% of the sample) were analyzed by cross-tabulating perceived needs with personal factors, using an SPSS computer program.

Evaluation of the experimental course involved comparing pretest and posttest scores and testing two null hypotheses:

$H_o{}^1$: Taking a library skills course does not significantly affect a student's success in concurrent courses which involve library assignments. Multiple correlation and linear regression were used for the first test of this hypothesis, with dependent variables being grade in EE 200, GPA at the beginning of the term, number of credit hours taken during the term, and number of courses taken during the term, and the independent variable being grade average for those concurrent courses which probably called for library use. A second test of this hypothesis involved comparing each student's grade in each concurrent library-using course with the grade average of other students in the same section.

H_o^2: There is no significant difference between interrupted students and others in success with a library skills course. One-way analysis of covariance was used to test this hypothesis, with grade in EE 200, GPA at the beginning of the term, and grade average for library-using concurrent courses as covariates and degree of interruption (4 years or less, 5 years or more) as the breakdown variable.

The population for these tests was the group of 33 who completed at least one concurrent course as well as EE 200. Eleven of this group had had their educations interrupted by five years or more.

II. — PROCEDURES

The Survey

A survey questionnaire (Appendix A) designed to relate perceived library needs to personal factors was mailed to 1836 students, every tenth person enrolled for Fall 1978. Op-scan sheets and stamped addressed envelopes were enclosed for response. The make-up of the responding sample, 558 students, is apparent from the responses to questions about personal factors.

In addition to the personal factors reported by the respondents five others, numbers 25-29, were gotten from a computer-based Student Information file. The computer center produced a printout showing the five computer-stored factors and identifying each set with a number, and produced mailing labels which included the identifying number. In preparing each questionnaire for mailing we cut off the number from the mailing label and attached it to the return envelope or the op-scan sheet. The last five data items were entered on the returned op-scan sheets, using the matched data on the printout.

There is sure to be some bias in the findings from a survey that depends on volunteer responses. An identifiable bias in our survey was that over 27 percent of the respondents were dormitory residents whereas the actual proportion is under 22 percent.

The discrepancy was probably due to the fact that the questionnaire went to the dorm residents promptly, by campus mail, and to everyone else slowly, by bulk mailings. Many students who received a questionnaire in November with a cover letter dated October 2nd may have decided that it was too late to respond.

In analyzing the crosstabulations, we used the chi-square statistic to identify significant relationships between student

characteristics, referred to henceforth as personal factors, and their library needs. Where significance at the .05 level or better was found, the table was studied to find which combination(s) of personal factor and need appeared responsible for the relationship. We decided that a difference of nine percent or more between expected and observed personal factor or level of need would qualify the need/factor combination as playing that role.

Table I shows an example of a grid on which lines are drawn between expected and observed frequencies that differ by nine percent or more. A vertical line shows where a subgroup's proportion of the total response differs from the group's proportion in the total sample by nine percent or more. A horizontal line shows where a subgroup's response differs from the response of the full sample by nine percent or more.

TABLE I

VAR18, HOMELOC

VAR4, LATE	COUNT / ROW % / COL % / TOTAL %	(DORM) 0	(NEAR) 1	(COMMUTE) 2	ROW TOTAL
0	OFTEN	74 38.1 54.4 14.9	30 15.5 39.0 6.0	90 46.4 31.8 18.1	194 39.1
1	SOMETIMES	49 25.9 36.0 9.9	30 15.9 39.0 6.0	110 58.2 38.9 22.2	189 38.1
2	RARELY	13 11.5 9.6 2.6	17 15.0 22.1 3.4	83 73.5 29.3 16.7	113 22.8
	COLUMN TOTAL	136 27.4	77 15.5	283 57.1	496 100.0

CHI SQUARE = 27.99644 WITH 4 DEGREES OF FREEDOM SIGNIFICANCE = 0.0000

We created an undergraduate subgroup of recently-transferred students by selecting respondents from the sophomore, junior, and senior class who first enrolled at EMU in 1978. There were 61 of them, or 15% of the undergraduate respondents. Quiet was the only need for which we found significant difference in response between recent transfers and the total sample.

We had Grade Point Averages (#27) and expressed desire for a library skills course (#23) cross-tabulated with the other personal factors as well as with library needs. This was done because of the possible relevance of those personal factors to evaluation of the experimental course.

We also had library used for course work crosstabulated with residence location and class location to find out whether our commuters and extension students were indeed "library-hoppers."

The Course

The Curriculum and Instruction Department of the University's College of Education agreed in May 1978 to offer the library skills course in its Educational Media program. In mid-October the English Department decided to join; therefore the course was cross-listed as EDM 200 and ENG 200, with half of the available spaces allotted to each department. The librarians chosen to teach EE 200 were:

Ann Andrew, Education librarian
Margaret Best, Instructional Materials librarian
Ronald Colman, Social Science and Business librarian
Keith Stanger, Psychology and Orientation librarian

Those four librarians spent the Fall semester in course preparation. With guidance from LOEX Director Carolyn Kirkendall they studied instructional materials already in use for some 100 library skills courses at other institutions.

During the fall semester the teaching team met regularly with Project Advisor Hannelore Rader, the Project Director, Dr. Henry Corbacho of the Curriculum and Instruction Department, and Dr. Jeffrey Duncan of the English Department. These meetings were designed to coordinate course planning in liaison with the sponsoring departments.

It became clear early on that the four teaching librarians would have different instructional styles and that four syllabi and assignment sets would be developed. To provide a research base it was necessary to establish the following common core:

a. All students would get a final grade (no pass/fail option) of which a final exam, a term project, and short assignments (as a group) would each count for at least 20%.

b. A common set of objectives

c. A common pretest and posttest

Four sections of EE 200 were offered -- Monday, Tuesday, and Wednesday evenings at 5:15 on campus and Wednesday at 4:30 at EMU's Jackson Community College extension site. Brochures about the course were distributed around campus and mailed to some 300 undergraduates identified as recently reentered. The student newspaper and the faculty newsletter each carried an article about the course and the campus radio station broadcast a spot announcement. The EMU advisor at Jackson, who had been one of our proposal Advisors, had brochures on hand.

Jackson Community College was chosen as the extension site for EE 200 for three reasons. EMU had just launched its first "two plus two" program there, i.e. it had started to offer bachelor's degree curricula to Jackson Community College graduates. The Jackson CC library, which was cooperating with EMU in support of this extension program, provided

a suitable laboratory for a library skills course. (Many extension sites don't have a suitable library.) It was not too far from EMU campus -- about an hour's drive.

The Jackson section of EE 200 got no enrollment and the Wednesday section on campus was cancelled because of low enrollment. Comments from some reentering students who are homemakers and not free in the evening indicate that we probably could have filled a daytime section, as indeed we did the following term. The Spring term section got an initial enrollment of 16, with 13 remaining through the term. Between the three sections that ran, 37 students completed the course.

The two librarians who didn't get Winter term sections of their own, Ms. Andrew and Mr. Colman, helped Miss Best and Mr. Stanger with their sections. The departure from plan proved to be fortunate. The course as designed for this project is very time-consuming for the instructors with almost every class session involving an assignment, different in specific content for each student, to be prepared and graded. Such a design follows naturally from the concept that library instruction must be tied closely to each student's library needs.

Each section of EE 200 was given the same pretest and posttest but reading materials they received and the assignments they were given varied. For explanatory text Miss Best used, with minor adjustments, sections of Making It in the Library, 3rd edition (1976), produced by the Reference Department of the University of South Florida Library. Miss Best had helped to write that book and had used it in teaching a library skills course at South Florida. Mrs. Rader used Miss Best's explanatory material except for the introductory text, which was Mr. Stanger's.

Some of Mr. Stanger's explanatory text was compiled from materials

in the LOEX clearinghouse and elsewhere and much of it was written specifically for EE200. The workbook presented in Appendix H is the one developed and used by Mr. Stanger. The course outlines and assignments prepared and used by Miss Best and Mrs. Rader are presented as alternatives in Appendix I.

III - FINDINGS

The Survey

The response to each question about library needs and personal factors is shown with the survey instrument in Appendix A. Table II shows the needs responses in rank order.

TABLE II

Need	Reported Often or Sometimes (Percent)
1. Circulating materials	85.4
2. Information without instruction	84.2
3. Non-circulating materials	84.1
4. Quiet	83.7
5. Photocopiers	83
6. Late weeknight open hours	75.7
7. Extensive weekend hours	69.2
8. Instructional assistance	69
9. Help with equipment	47.7
10. Group study space	39.5
11. Snack area	35.2
12. Typewriters	31.2
13. AV materials	28.7

Combined Needs	Reported Often or Sometimes (Percent)
Library materials (1 & 2)	84.8
Help from a librarian (6 & 7)	76.6
Extensive open hours (4 & 5)	72.5

The survey was designed to be analysed by crosstabulation of needs and factors in order to answer questions such as these:

Are extensive open hours desirable even if we can't have a librarian on hand? Not as useful. Need for services that require a librarian is somewhat greater than need for extensive open hours.

Are we serving primarily as a study hall? No. We interpreted the need for quiet as a study-hall need, but three needs involving library (rather than study hall) service ranked above quiet.

We get frequent complaints about photocopier malfunctions. Should we continue our efforts to improve photocopier maintenance? Yes.

Sometimes it seems that we don't have enough small-group study rooms. Do we? Yes.

We get frequent complaints about our coin-operated typewriters, which are not serviced frequently enough. The person who provides and services them has no competition in the region, so our alternatives are to purchase and maintain our own machines or give them up altogether. What shall we do? Consider giving them up or persuading other campus units to locate them in the dorms and/or student union. Dorm residents and Freshmen - groups which are decreasing in relative size - are the only groups which want typewriters more than statistically expected; two-thirds of the respondents wanted them "rarely."

A year and a half ago a snack room was set up in the building in response to student pressure. Should we keep it? Yes, unless it presents

serious maintenance problems. Commuters need it.

We get frequent complaints that the library isn't quiet enough. Should we keep trying to lower the noise level in various ways? Yes. Though the need for quiet varies among different types of students, most consider it important.

At EMU the proportion of part-time, graduate, transfer, older, interrupted, and commuting students has been growing. Are there any library services that should be improved or increased to accommodate their needs? No. Most services are needed less by these groups than statistically expected.

Are extension and commuting students inclined to use libraries close to their homes rather than EMU library? Moreso than are students who live in dorms or nearby, but over half of the extension students and two thirds of the commuters rely on the campus library.

Appendix B outlines the significant correlations, arranged first by need and next by personal factor. Needs and factors are shown where "often" and/or "rarely" responses differed from statistically expected frequency by nine percent or more. With the first arrangement, level of significance is given directly after student factor, followed by percentages of difference in parentheses. Correlations of needs with type of library used for course work (#20) are left out because responses to that question tell more about the nature of the library than about the student's needs and because including a "rarely use" option in that question reduces the significance of the responses as indicators of need.

The survey correlations support EMU's emphasis on library instruction. Almost four fifths of the students who had had class-

room instruction found it useful. These students are more library-conscious than most others, showing more need than expected for four services or facilities. Students who wanted to take a library skills course are even more library-conscious, showing more need than expected for eight of the services and facilities.

The concept of instruction as part of reference service has not taken hold very well. While information without instruction (7) ranked next to the top among library needs, guidance in the use of library tools (6) took eighth place. There is some question, however, whether those two questions, especially number 7, were interpreted as intended.

Nontraditional students appear less library-conscious than traditional types. Commuters reported less need than expected for five library services, more need only for a snack room. Students who had interrupted educations reported less need for four services, as do students aged 31 and over (the same four services and probably mostly the same students). Part-time students reported less interest than expected in quiet, getting information, and taking a library skills course. We interpret these findings as a challenge to continue efforts to raise the library-awareness of nontraditional students.

Students in EE 200 were asked to answer the questionnaire early in the term. The second part of Appendix A shows their responses, with (+) or (-) after those responses which differed from the random sample by 9% or more. The fact that the course attracted older and interrupted students out of proportion to their numbers indicates successful recruiting because the survey correlations show that the primary clientele for such a course is normally the under-21 age group. The EE 200 answers

to questions 2, 6, and 7 indicate that this group was already more aware of academic library resources and services than the norm.

The Course

Each section of EE 200 was given a pretest during the first meeting and a posttest as part of the final exam. Each test had 32 items with illustrative answers provided for two of them, leaving 30 as the highest possible score. Appendix C shows the two tests.

Pretests and posttests were compared as to the number of incorrect answers given for each question or set of questions. (In some cases sets of questions dealing with the same subject were grouped.)

Questions 10-12 presented a problem since their format varied between pretest and posttest. This set should have been a single question, not three, and should have been presented as questions #28 and #31 were, i.e. "The following materials may be found in the EMU card catalog . . . "

Table III shows the questions ranked in order of number of incorrect answers given and in order of error reduction from pretest to posttest. Pretests of students who missed the posttest were not tallied. Table III represents 37 pairs of tests.

Table III

Pretest Question	Number of Wrong Answers
5, series statement on catalog card	36
13, shelf order	34
29, N.Y. Times Index	30
32, SuDocs numbering system	28
6, tracings on catalog card	26
28, Reader's Guide filing entries	26
7-9, catalog filing order	23.3, mean
30, approach to encyclopedias	19
10-12, materials not shown in EMU catalog	18.4, mean
27, nature of an abstract	17
19, periodical holdings list	17
20, definition of bibliography	11
14-18, periodical index format	10.8, mean
22-26, identify type of material by citation	8.4, mean
31, coverage of GPO	8
2, call number on catalog card	6
3, publisher, on catalog card	2
4, date of publication, on catalog card	1

Total wrong answers: 480, or 43%

Posttest Question	Number of Wrong Answers
5, series statement on catalog card	15
7-9, catalog filing order	15, mean
10-12, materials not shown in EMU catalog	12, mean
13, shelf order	10
19, periodical holdings list	10
28, Reader's Guide filing entries	8
6, tracings on catalog card	5
14-18, periodical index format	4.2, mean
27, nature of an abstract	4
29, N.Y. Times Index	4
30, approach to encyclopedias	3
20, definition of bibliography	2
31, coverage of GPO	2
32, SuDocs numbering system	2
3, publisher, on catalog card	2
22-26, identify type of material by citation	1.6, mean
2, call number on catalog card	0
4, date of publication on catalog card	0

Total wrong answers: 177 or 16%

Error Reduction from Pretest to Posttest

Question	Number of Wrong Answers	Percent Reduction
32, SuDocs numbering system	-26	93%
29, N.Y. Times Index	-26	87
13, shelf order	-24	71
6, tracings on catalog card	-21	81
5, series statement on catalog card	-21	58
28, Reader's Guide filing entries	-18	69
30, approach to encyclopedias	-16	84
27, nature of an abstract	-13	76
20, definition of a bibliography	-9	82
7-9, catalog filing order	-8.3, mean	36
19, periodical holdings list	-7	41
22-26, citation format	-6.8, mean	81
14-18, periodical index format	-6.6, mean	61
10-12, materials not shown in EMU catalog	-6.4, mean	35
2, call number on catalog card	-6	100%
31, coverage of GPO	-6	75
4, publication date, on catalog card	-1	50
3, publisher, on catalog card	-0	00

Total error reduction: 303, or 63%

The data in Table III provide a measure of success for the experimental course. One indication of success in the learning of a specific topic is the change in the topic's position on the ranked list. For example, the question on the SuDocs numbering system for government publications went from fourth to 14th place (out of 18) a sign of considerable success, while the New York Times Index did almost as well, going from third to tenth place. Less well learned were catalog filing order which rose from seventh to second place, card catalog coverage which rose from ninth to third place, and series statement, which stayed in first place.

Another indication of success with specific topics is the amount of error reduction in relation to the percent of error reduction.

If both figures are high as for the SuDocs numbering system, the New York Times Index, and tracings, success is indicated. A low amount of reduction with a high percent of reduction, as for call number on a catalog card, citation format, and coverage of GPO, indicates that the topic may have been well understood at the outset and probably didn't need much attention in the course. If both amount and percentage of reduction are fairly low, as for card catalog coverage, the periodical holdings list, and catalog filing order, some degree of failure is indicated. The students might have done better with card catalog coverage if the question had been better designed.

The t-test was used to find whether the difference between pretest and posttest scores was significant. Two sets of matched pairs were analysed: (1) number of correct answers on the pretest and posttest for each item; (2) pretest and posttest scores for each student. Both analyses established a highly significant difference ($<.005$).

Some of the rival hypotheses described by Campbell and Stanley[5] were probably at work limiting the validity of the pretest-posttest design for evaluation of EE 200. Some students, having used the library extensively for the first time during the same semester, may have learned alot from the reference librarians. The pretest itself was a learning experience and may have also increased the students' responsiveness to instruction. The fact that EE 200 was presented as a new and experimental course may have had a reactive effect. It is also possible that the students who completed the course were stronger academically than the 16% who did not take the posttest.

Further evaluation of the experimental course involved testing

two null hypotheses. H_o^1: Taking a library skills course does not significantly affect a student's success in concurrent courses which involve library assignments.[6,7] H_o^2: There is no significant difference between interrupted students and others in success with a library skills course. The sample for these tests was a group of 33 students who completed at least one concurrent course as well as EE 200. Eleven of this group had had their educations interrupted by five years or more. Appendix D shows a section of the chart used to record the data for these tests.

Multiple correlation and linear regression were used for the first test of H_o^1, with independent variables being grade in EE 200, GPA at the beginning of the term (Entering GPA), number of credit hours taken during the term and number of courses taken during the term, and the dependent variable being grade average for those concurrent courses which probably called for library use (Term GA). Credit hours and number of courses were included because course load is known to affect grades. (The correlation between load and grades was negative as expected but not above the critical value for .05 significance.)

The correlation matrix shows positive correlations above the critical value of .345 between EE 200 grade and Entering GPA (.4336) and between EE 200 grade and Term GA (. 6353), after controlling for academic load. The matrix also shows a positive relationship between Term GA and Entering GPA, but it is slightly below the critical level. Linear regression analyses support these correlations.

Appendix E shows a printout of the multiple correlation matrix and of regression of all four independent variables on Term GA.

Regressions were also computed for pairs of variables on EE 200 grade and Term GA, e.g., Term GA and credit hours on EE 200 grade.

A second test of H_o^1 involved comparing each EE 200 student's grade in each concurrent library-using course with the grade average of the other students in the particular section of the course in which our EE 200 student was enrolled. The data for 74 course sections came from a computer-printed grade distribution report. The grade average for EE students was found to be higher by .16 on a scale of 1.78 to 3.84. Data analysis by t-test showed that the difference was not significant. It also can probably be attributed in some degree to self-selection, one of the pitfalls of the "static-group comparison" design (Campbell and Stanley, cited above, p. 12).

One-way analysis of covariance was used to test H_o^2, with grade in EE 200, Entering GPA, and Term GA (grade average for concurrent courses) as covariates and interruption of 5 years or more as the breakdown variable.

Interrupted students ranked above continuous students in all three measures of achievement. Controlling for covariates, especially controlling for Entering GPA, had a considerable impact on EE grade and Term GA, narrowing the differences between the two groups. The difference between the two groups in Entering GPA approaches significance (probability .101) when controlling for covariates. Table IV shows these relationships.

Table IV

Mean EE Grade

	Unadjusted	Adjusted for 2 Covariates	Adjusted for Entering GPA only
Continuous	3.23	3.36	3.34
Interrupted	3.64	3.37	3.41
Difference	.41	.01	.07
Probability		.965	.861

Mean Term GA

	Unadjusted	Adjusted for 2 Covariates	Adjusted for Entering GPA only
Continuous	2.77	2.83	2.82
Interrupted	3.01	2.88	2.90
Difference	.24	.05	.08
Probability		.874	.815

Mean Entering GPA

	Unadjusted	Adjusted for 2 Covariates
Continuous	2.76	2.78
Interrupted	3.14	3.09
Difference	.38	.31
Probability		.101

The significance of findings about the course is greatly limited by the small size of the experimental group. Data-sensitivity is revealed when findings for the winter term group of 23 are compared with those for the full group of 33. In multiple correlation and linear regression most relationships are stronger with the larger sample. In covariance analysis, differences of means between interrupted and continuous students were reduced for EE grade and Term GA, increased for Entering GPA, when the group was enlarged. The impact of covariates was less for the larger group. A t-test on a reduced set of concurrent course grades (every fourth section) showed a significant difference between the experimental and control groups, (at $<.025$) unlike the t-test for the full sample.

In one respect the course was clearly effective: student evaluations were highly favorable (See Appendix F). The students appreciated having individualized assignments and worked diligently at them. All said that they would strongly recommend the course to other students. Three sections of the course were offered for Fall 1979 and all got good enrollments.

IV - CONCLUSIONS

Correlation of library needs with student characteristics is useful for academic library planning in institutions where the nature of the student body is changing. The survey carried out for this grant program provided fairly reliable correlations. They revealed that the changes in the student body now occurring at EMU do not call for new or increased library services, but do call for increased effort and new directions in EMU's library instruction program. Ways must be found to raise the library-awareness of nontraditional students.

Students who took the experimental course improved their skills substantially in most areas of library use. All who completed the course were highly satisfied with it. Statistical analyses, however, fail to show (1) a strong link between taking a library skills course and succeeding in concurrent courses which involve library use, or (2) a significant difference between continuous and interrupted students in success with a library skills course. Some relationships were found but it appears that they can be attributed largely to motivation and self-selection. The two null hypotheses were supported. This one-year project cannot, however, tell us about the long-range effects of a library skills course.

V--RECOMMENDATIONS

The Survey

Many of the questionnaire items reflect problems or conditions that would not be relevant to all academic libraries. Other libraries might want to include questions that are not of particular concern at EMU. We recommend the EMU survey instrument to other libraries not primarily for its specific questions but for its concept of relating library needs to personal factors.

Although the sample of students receiving the questionnaire was perfectly random, the use of mail distribution yielded a response sample somewhat skewed by self-selection. A more reliable response would be achieved by distribution in a carefully-selected set of classes.

If a similar comprehensive survey were conducted at EMU in the near future we would revise the questionnaire. Appendix G shows these changes:

We made two categories of noncirculating materials so that the responses would distinguish between relatively sophisticated library use (indexes and other reference tools), for which a librarian's help is often needed, and relatively unsophisticated library use (Reserves).

Because low need level was reported for AV materials and help with machines, we dropped those two items. Most student use of audio-visual material is indirect, via the classroom.

Comments by several respondents indicated that wording for question 7 ("information but not instruction") was confusing. It seemed unnecessary to struggle further for a way to show the difference between the instructional approach and the "special library" approach when all we

really wanted to know was how often our students need to consult a librarian. (revised form, number 6).

We added a personal factor question, "How often do you use a library for course work?" Frequency of use is basic information which is useful by itself and when correlated with most needs and personal factors.

We dropped two personal factor questions, 16 and 17. It is not useful to ask whether a student is a homemaker because the answer depends on the respondent's personal definition of the term. The extension situation is different enough from the on-campus situation to warrant a separate survey instrument.

The question "What library do you use most often for course work?" was shortened. The "other" response was dropped because only six people had chosen it and the "rarely use" response became part of the new number 12.

Information pulled from the computer-readable Student Information File for the Fall 1978 survey was added to the questionnaire (16, 17, 24, 25, & 26). It probably would not be appropriate to request access to confidential information or the necessary programming if we made a survey without grant support. Age (17) and GPA (24) levels are grouped in order to get more responses; these were the most often skipped questions in a similar survey made before the grant period.

The Course

Most academic librarians today believe that, ideally, every student should acquire library research skills as part of a college

education. They are generally dissatisfied with the results of the most common method, the "one-hour stand," and are searching for more effective ways to achieve library literacy for the whole student body.[8]

There are three routes to this goal. One is a library skills course required for graduation, perhaps with the option of testing out of it. One is a library skills module in a course required of all students, including transfers, for graduation. (By "module" we mean a complete unit occupying three or more class sessions and usually involving an assignment designed and graded by a librarian.) A third route would be a library skills module in all sections of one required course for each major; the chosen course would need to be advanced enough that transfer students would not have taken it already at another school.

Those routes are not widely available. There are very few schools today that require a single course for all students. (Where there is such a course, a good case could be made for including a library skills module.) The chances of getting a library skills course itself required are remote and the desirability is questionable. Using the route of a required course in every curriculum, one would hit every snag in the maze of academic politics. It's a route worth taking, however, even though the chances of getting all the way to the other end are close to zero.

Having considered the three routes to complete coverage, we may look again at EDM/ENG 200 and similar courses. At EMU such a course is accepted as one of several alternative ways to meet part of

the Basic Studies requirement for graduation. The survey carried out for this grant project showed that over a third of the student body is interested in taking such a course. An optional, credit-bearing library skills course, as part of a program that also involves "one-hour stands," can bring an academic library closer to the goal of teaching library skills to every student.

We have a few recommendations to make about a course such as EE 200:

1. Individualizing the assignments is highly valuable but very time-consuming for the instructor. There should be a graduate assistant.
2. Students should be advised to take the course when they will be taking, concurrently, at least one other course that will involve library research. Library skills are learned best in context.
3. A library skills course is not feasible at most extension sites because they have no library that is suitable for a laboratory.
4. The course should be given only in full-length terms.
5. Nontraditional students are inclined to lack library-awareness and some--notably re-entering students -- lack confidence in their ability to handle college. Special efforts should be made to recruit nontraditional students into library skills courses.
6. The course should be taught by librarians whom the students will encounter when they use their college library.

At EMU the future of the course is out of the library's control. University policy allows only teaching departments to generate credit hours. The "Special Projects" designation and 200 number, intended for experimental courses, may be used for only a year; Fall 1979 is the last semester of the course as EDM/ENG 200.

The Curriculum and Instruction Department, in its Educational Media program, has two library skills courses on the books. EDM 100, called "Library Orientation" has been offered from time to time without getting much enrollment; as a one-credit course it does not qualify as a Basic Studies elective. EDM 101, called "Use of Books and Libraries" and giving two credits, has not been offered for years. It is up to the Curriculum and Instruction Department to decide whether the renewed interest generated by EE 200 warrants offering their own course in subsequent semesters and, if so, which course to offer.

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APPENDIX A

Do you need these services or facilities when you use a library for course assignments?

1.	Materials that can be borrowed. . .	A often	44.4%
		B sometimes	41.0%
		C rarely	14.5%
2.	Materials that must be used in the building. . .	A often	33.0%
		B sometimes	51.1%
		C rarely	15.9%
3.	Audiovisual materials. . .	A often	4.1%
		B sometimes	24.6%
		C rarely	71.2%
4.	Late open hours on weekday evenings, (Monday - Thursday) . . .	A often	37.3%
		B sometimes	38.4%
		C rarely	24.4%
5.	Extensive open hours on weekends, (Friday - Sunday) . . .	A often	34.4%
		B sometimes	34.8%
		C rarely	30.8%
6.	Guidance in the use of library tools, such as the card catalog and periodical indexes . . .	A often	31.1%
		B sometimes	37.9%
		C rarely	30.9%
7.	Information (not instruction in how to find it, but the information itself) . . .	A often	40.3%
		B sometimes	43.9%
		C rarely	15.8%
8.	Help in the use of photocopiers, microform readers, or AV equipment . . .	A often	16.5%
		B sometimes	31.2%
		C rarely	52.2%
9.	A quiet place to study. . .	A often	57.9%
		B sometimes	25.8%
		C rarely	16.3%
10.	A place to study with a group. . .	A often	6.6%
		B sometimes	32.9%
		C rarely	60.5%
11.	A place to have a snack. . .	A often	11.4%
		B sometimes	23.8%
		C rarely	64.9%
12.	Photocopying facilities. . .	A often	45.1%
		B sometimes	37.9%
		C rarely	17.0%
13.	Typewriters. . .	A often	10.2%
		B sometimes	21.0%
		C rarely	68.8%

Please answer the following questions about yourself:

14. Do you have a full-time job?
A Yes 35.0%
B No 65.0%

15. Do you have a part-time job?
A Yes 42.0%
B No 58.0%

16. Are you a homemaker?
A Yes 28.4%
B No 71.6%

17. Class locations:
A EMU campus 82.9%
B Off campus 7.3%
C Both 9.8%

18. Residence (If your classes are all off campus, skip this.)
A EMU dormitory 27.4%
B Near EMU campus (walking distance) 15.5%
C Too far to walk 57.1%

19. Has your college or graduate education been delayed or interrupted by a year or more?
A Yes, 5 or more years 14.1%
B Yes, 1 - 4 years 29.7%
C No 56.2%

20. What library do you use most often for your course work?
A EMU library 72.8%
B Another college or university library 6.2%
C A public library 9.2%
D Some other kind of library 1.1%
E Rarely use a library for course work 10.6%

21. Many EMU professors bring their classes to the library for library skills instruction sessions. Have you had any such instruction?
A Yes 42.2%
B No 57.8%

22. If you answered Yes, did you find the session useful?
A Yes 79.6%
B No 20.4%

23. If a credit-bearing course in library research skills were offered, would you want to take it?
A Yes 38.0%
B No 62.0%

24. From which College do you expect to graduate?
A Arts and Sciences 21.5%
B Business 28.0%
C Education 31.0%
D Human Services 13.4%
E Applied Sciences 6.1%

25. Class level:
1 20.2%
2 16.9%
3 16.4%
4 17.8%
Grad 28.7%

26. Academic load:
Full-time 58.9%
Part-time 41.1%

27. GPA:
2.4 & under 22.5%
2.5 - 3.4 56.8%
3.5 & over 20.7%

28. Age:
20 & under 33.5%
21 - 25 33.1%
26 - 30 16.2%
31+ 17.1%

29. Enrollment year:
July '78+ 37.4%
Earlier 62.6%

30. 1978 undergraduate transfers: 10.9% (derived figure)

LIBRARY NEEDS SURVEY: EE 200, Winter & Spring 1979

Need:

1. Materials that can be borrowed... A often - 47%
   B sometimes - 42%
   C rarely - 11%

2. Materials that must be used in the building. . . A often - 50% (+)
   B sometimes - 45%
   C rarely - 5% (-)

3. Audiovisual materials. . . A often - 3%
   B sometimes - 42% (+)
   C rarely - 55% (-)

4. Late open hours on weekday evenings. . . A often - 45%
   B sometimes - 42%
   C rarely - 13% (-)

5. Extensive open hours on weekends. . . A often - 47% (+)
   B sometimes - 37%
   C rarely - 16% (-)

6. Guidance in the use of library tools. . . A often - 42% (+)
   B sometimes - 37%
   C rarely - 21% (-)

7. Information without instruction. . . A often - 21% (-)
   B sometimes - 47%
   C rarely - 32% (+)

8. Help in the use of equipment. . . A often - 29% (+)
   B sometimes - 26%
   C rarely - 45%

9. A quiet place to study. . . A often - 66%
   B sometimes - 23%
   C rarely - 11%

10. A place to study with a group. . . A often - 3%
    B sometimes - 42% (+)
    C rarely - 55%

11. A place to have a snack. . . A often - 21% (+)
    B sometimes - 18%
    C rarely - 61%

12. Photocopying facilities. . . A often - 40%
    B sometimes - 42%
    C rarely - 18%

13. Typewriters. . . A often - 11%
    B sometimes - 21%
    C rarely - 68%

Factor:

14. Do you have a full-time job? A Yes - 16% (-)
B No 84% (+)

15. Do you have a part-time job? A Yes - 44%
B No - 56%

16. Are you a homemaker? A Yes - 33%
B No - 67%

17. Class locations: A EMU campus - 100% (+)
B Off campus -
C Both -

18. Residence: A EMU dormitory - 26%
B Near EMU campus (walking distance) - 20%
C Too far to walk - 54%

19. Has your college or graduate education been delayed or interrupted by a year or more? A Yes, 5 or more years - 37% (+)
B Yes, 1 - 4 years - 16% (-)
C No - 47% (-)

20. What library do you use most often for your course work?
A EMU Library - 86% (+)
B Another college or university library -
C A public library - 5%
D Some other kind of library -
E I rarely use a library for course work - 8%

21. Many EMU professors bring their classes to the library for library-skills instruction sessions. Have you had any such instruction?
A Yes - 43%
B No - 57%

22. If you answered Yes, did you find the session useful? A Yes - 87.5%
B No - 12.5%

23. If a credit-bearing course in library research skills were offered, would you want to take it? A Yes - 95% (+)
B No - 5% (-)

24. From which unit do you expect to graduate? A Arts and Sciences - 35% (+)
B Business - 27%
C Education - 16% (-)
D Human Services - 16%
E Applied Sciences - 6%

25. Class level: 1 - 25%
2 - 27% (+)
3 - 23%
4 - 25%
5 - 0 (-)

26. Academic load: full - 59%
part - 41%

27. GPA: Up to 2.4 - 30%
2.5 - 3.4 - 52%
3.5 & over - 18%

28. Age: 20 & under - 23% (-)
21 - 25 - 36%
26 - 30 - 14%
31+ - 27% (+)

29. Enroll date:
Summer '78 or later - 27% (-)
Earlier - 73% (+)

30. 1978 transfers - 21% (+?)

APPENDIX B

Service or Facility	More Need Than Statistically Expected	Less Need Than Statistically Expected
(1) Circulating materials	Students having some or all classes off campus: .04 (12.1% & 11.2%)	On-campus students: .04 (10.9%)
	Homemakers: .034 (8.6%)	
	Students who have had library instruction: .029 (13.4%)	Students who have not had library instruction: .029 (13.5%)
	Students in College of Education: .007 (12.3% & 10.6%)	Students in College of Business: .007 (13.3%)
	Students in Applied Sciences: .007 (16.9%)	
	Students who want a library skills course: .047 (9.2%)	Students who do not want a library skills course: .047 (9.3%)
(2) Non-circulating materials	Students who do not have full-time jobs: .003 (16.2%)	Students with full-time jobs: .003 (16.2%)
	Students who live near campus: .007 (10.3% & 9.8%)	Students who commute: .007 (16.9%)
		Students whose education has been interrupted for 5 years or more: .017 (14.5% & 12.8%)
	Students who have had library instruction sessions: .011 (8.9%)	Students who have not had library instruction sessions: .011 (8.9%)
	Students in College of Human Services: .029 (9.2%)	Students in Applied Sciences: .029 (14.9% & 13%)

Service or Facility	More Need Than Statistically Expected	Less Need Than Statistically Expected
(3) AV materials	Students with full-time jobs: .045 (12.8%)	Students who do not have full-time jobs: .045 (12.8%)
	Students who have had a library instruction session: .013 (18.7%)	Students who have not had a library instruction session: .013 (18.7%)
(4) Late open hours on weeknights	Dormitory residents: .0000 (10.7%, 15.3% & 13.2%)	Commuting students: .0000 (10.7% & 16.4%)
	Students who want a library skills course: .004 (8.7%)	Students who do not want a library skills course: .004 (8.7%)
	Freshmen: .013 (13.6%)	Graduate students: .013 (9.7%)
(6) Instructional assistance		Students having GPA's of 2.4 or less: .014 (11.2%)
	Students who want a library skills course: .001 (10.7%)	Students who do not want a library skills course: .001 (10.7%)
		Students aged 26 or older: .04 (9.1% & 9.5%)
(7) Information but not instruction		Commuting students: <.05 (12.9%)
	Students whose education has continued uninterrupted: <.01 (12.8%)	Students whose education has been interrupted for 5 years or more: <.01 (15.2%)
	Freshmen, sophomores: .021 (9.7% & 9.3%)	Graduate students: .021 (9.5%)
	Full-time students: <.01 (15.2%)	Part-time students: <.01 (15.1%)
	Students with GPA of 2.5 - 3.4: <.02 (15.4%)	Students with GPA of less than 2.5: <.02 (15.2% & 10.5%)
	Students aged 20 & under: .0003 (17.9%)	Students of age 31 or older: .0003 (15.8% & 10.4%)

Service or Facility	More Need Than Statistically Expected	Less Need Than Statistically Expected
(8) Help using machines	Students who have had library instruction: .034 (12.3%)	Students who have not had library instruction: .034 (12.3%)
	Students who want a library skills course: .0000 (13.6% & 9.6%)	Students who do not want a library skills course: .0000 (13.6%)
(9) Quiet place to study	Students who do not have full-time jobs: .0000 (19.4%)	Students with full-time jobs: .0000 (14% & 19.4%)
	Students with part-time jobs: .041 (10.1%)	Students who do not have part-time jobs: .041 (10.1%)
		Homemakers: .001 (12.1% & 10.2%)
	On-campus students: .012 (10.7%)	Extension students: .012 (15.4%)
		Students having both on-campus and extension classes: .012 (11.6% & 13.2%)
	Dormitory residents: .0004 (12.6%, 16.1% & 9.5%)	Commuting students: .0004 (19.2%)
		Students whose education has been interrupted for 5 years or more: .024 (15.3% & 10.8%)
	Students who have not had library instruction: .047 (8.9%)	Students who have had library instruction: .047 (8.9%)
	Students who want a library skills course: .002 (9.7% & 11%)	Students who do not want a library skills course: .002 (11%)
	Freshmen: .0000 (16% & 19%)	Graduate students: .0000 (10.5%, 21.3% & 13.4%)

Service or Facility	More Need Than Statistically Expected	Less Need Than Statistically Expected
(9) Quiet place to study (Continued)	Students with GPA of 2.5 - 3.4: .047 (11.5%)	Students with GPA of 3.5 or higher: .047 (12.6% & 10.8%)
	Full-time students: .0000 (21.6%)	Part-time students: .0000 (12,1% & 21.6%)
	Students 20 years old or less: .0000 (21.3%, 9.7%, 13.5%)	Students age 26 or older: .0000 (10.6%, 12.2%, 10%, 10.4%, 17.4%)
	Students first enrolled in 1978: .0007 (9.3% & 15.7%)	Students enrolled before 1978: .0007 (15.7%)
	Recent undergraduate transfers: .0000 (25.7%)	
(10) Place for group study		Students whose education was interrupted for 5 years or more: .05 (14.3%)
	Students who want a library skills course: .008 (8.7%)	Students who do not want a library skills course: .008 (8.7%)
	Students of ages 21-25: .03 (12.7%)	Students of age 31 or older: .03 (14%)
(11) Place for a snack	Commuting students: .005 (12.1%)	Dormitory residents: .005 (14.7% & 12.1%)
(12) Photocopying facilities	Students with part-time jobs: .0004 (17.1%)	Students without part-time jobs: .0004 (17.1%)
	Students who want a library skills course: <.02 (11%)	Students who do not want a library skills course: <.02 (11%)
	Graduate students: .022 (9.4%)	Freshmen: .022 (11.5%)

Service or Facility	More Need Than Statistically Expected	Less Need Than Statistically Expected
(12) Photocopying facilities (Continued)	Students with GPA of 3.5 or higher: <.001 (11.2%)	Students with GPA of 2.4 or less: <.001 (17.6%, 16.2% & 11.3%)
	Students enrolled before 1978: .008 (10.3%)	Students first enrolled in 1978: .008 (10.3%)
(13) Typewriters	Dormitory residents: .015 (18.7%)	Commuting students: .015 (18.5%)
	Students who want a library skills course: .0000 (21.5% & 14.4%)	Students who do not want a library skills course: .0000 (21.5%)
	Freshmen: .006 (17.3%)	Graduate students: .006 (12.6%)
	Students first enrolled in 1978: .012 (23.5%)	Students enrolled before 1978: .012 (23.5%)

	More Need Than Expected for:	Less Need Than Expected for:
Students having full-time jobs	AV materials	Non-circulating materials Quiet place to study
Students having part-time jobs	Quiet place to study Photocopying facilities	
Homemakers	Circulating materials	Quiet place to study
On-campus students	Quiet place to study	Circulating materials
Extension students (having some or all classes off campus)	Circulating materials	Quiet place to study
Students who live near campus	Non-circulating materials	
Commuting students	Place for a snack	Non-circulating materials Late hours on weekdays Information without instruction Quiet place to study Typewriters
Dormitory residents	Late hours on weeknights Quiet place to study Typewriters	Place for a snack
Students whose education was interrupted 5 years or more		Non-circulating materials Information without instruction Quiet place to study Place for group study

	More Need Than Expected for:	Less Need Than Expected for:
Students who have had library instruction	Circulating materials Non-circulating materials AV materials Help using machines	Quiet place to study
Students who want a library skills course	Late hours on weeknights Quiet place to study Place for group study Photocopying facilities Typewriters Help using machines Instructional assistance Circulating materials	
College of Business students		Circulating materials
College of Education students	Circulating materials	
Applied Sciences students	Circulating materials	Non-circulating materials
Students in College of Human Services	Non-circulating materials	
Freshmen	Late hours on weeknights Information without instruction Quiet place to study Typewriters	Photocopying facilities
Sophomores	Information without instruction	

	More Need Than Expected for:	Less Need Than Expected for:
Graduate students	Photocopying facilities	Late hours on weeknights Information without instruction Quiet place to study Typewriters
Full-time students	Information without instruction Quiet place to study	
Part-time students		Information without instruction Quiet place to study
Students with GPA of 2.4 or less		Instructional assistance Information without instruction Photocopiers
Students with GPA of 2.5 - 3.4	Information without instruction Quiet place to study	
Students with GPA of 3.5 or more	Photocopiers	Quiet place to study
Students aged 20 and under	Information without instruction Quiet place to study	
Students aged 21-25	Place for group study	
Students aged 26-30		Instructional assistance Quiet place to study
Students aged 31 and over		Instructional assistance Information without instruction Quiet place to study Place for group study

	More Need Than Expected for:	Less Need Than Expected for:
Students first enrolled in 1978	Quiet place to study Typewriters	Photocopiers
Students enrolled before 1978	Photocopiers	Typewriters
Recent undergraduate transfers	Quiet place to study	

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Correlations between Personnel Factors

Students who would like to take a library skills course:

Freshmen:	.0000, 10.9% & 20.8%
Aged 20 or under:	.003, 9.8% & 11%
Full-time students:	.027, tendency; no gaps over 7%.

Students who would not like to take a library skills course:

Graduate students:	.0000, 14.4% & 10.8%
Part-time students:	.027, tendency, no gaps over 7%
Students who use another academic library for course work:	.021, 17.1%
Students who rarely use a library for course work:	.021, 11.8%

More GPA's below 2.5 than expected:

On-campus students: .0003 (11%)
Dorm residents: <.01, 10.8% & 12.3%
College of Business students, .0002 (11.4% & 9.3%)
Applied Science students, .0002 (10.1%)
Freshmen, .0000, 9.7% & 27.4%
Sophomores, .0000 (13% & 13.7%)
Students aged 20 or less, .0000 (12% & 10.6%)
Students in their first year at EMU, .034 (9.8% & 10%)

Fewer GPA's below 2.5 than expected:

Extension students, .0003 (13.6%)
Students taking both on-campus & extension classes, .0003 (12%)
College of Education Students, .0002 (17.3% & 11.4%)
Graduate students, .0000 (19.1% & 22.6%)
Students aged 31 and over, .0000 (10.4%)

More GPA's of 2.5 - 3.4 than expected:

Extension students: .0003 16.4%
College of Human Services students, .0002 (12.1%)
Juniors, .0000 $10.7%)

Fewer GPA's of 2.5 - 3.4 than expected:

Students taking classes both on and off campus: .0003 (9.2%)
Applied Science students, .0002 (13.1%)
Freshmen, .0000 (21.4%)

More GPA's of 3.5 and over than expected:

Students with full-time jobs: .016, 12.8%
Homemakers: <.001, 19.1% & 12.7%
Students taking classes both on and off campus: .0003 (11.9% & 21.2%)
Commuters: <01, 13%
College of Education students, .0002 (18% & 11.4%
Graduate students, .0000 (33.4% & 25.8%)
Part-time students, (21% & 10%)
Students aged 26 - 30, .0000 (13.3% & 11.5%)
Students aged 31 or over, .0000 (15.5% & 13.5%)

Fewer GPA's of 3.5 & over than expected:

Students with part-time jobs: .043 (11.6%)
College of Business students, .0002 (10.5%)
Sophomores, .0000 (11.2% & 10.8%)
Juniors, .0000 (14.1% & 14%)
Students aged 20 or under, .0000 (15.9% & 13%)
Students aged 21 - 25, .0000 (9.1%)

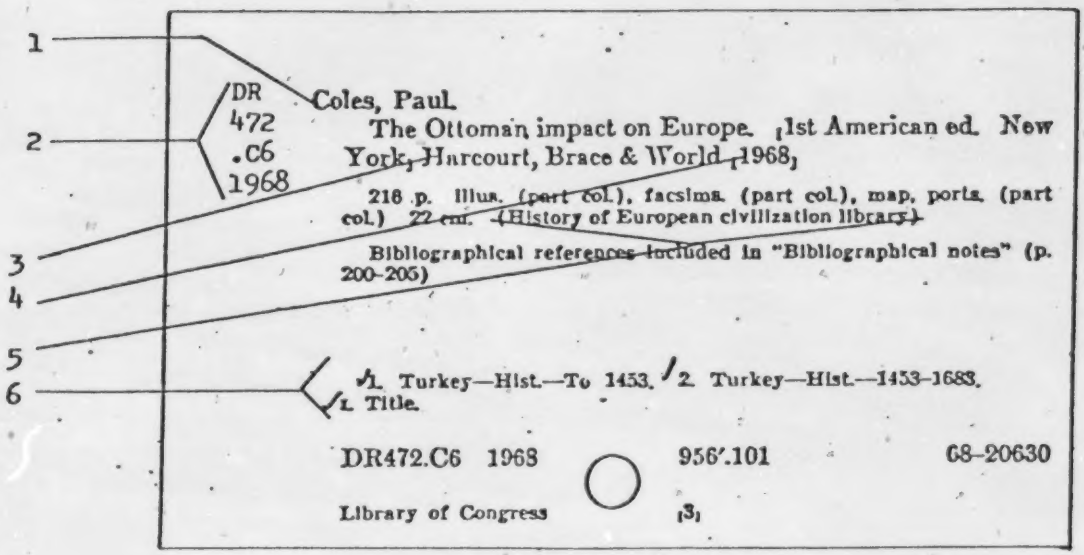
Sixty percent of the extension students use EMU library for their course work, which is 13.7% less than the norm for the full sample. 17.5% use public libraries, only 8.2% more than the norm. (.016 significance)

Commuters make up 56.9% of the sample population but 82.8% of those who choose other academic libraries and 85.4% of those who choose public libraries. Thus, differences from expectation are 25.9% and 28.5%, at .0001 significance. Even so, almost two-thirds of the commuters choose EMU library, not far below the full-sample norm.

Students who live near campus use EMU library in slightly higher proportion than dorm residents do, and 12.4% more than the full-sample norm (significance .0001).

APPENDIX C

EASTERN MICHIGAN UNIVERSITY
EDM/ENG 200 Winter 1979
Pre-Test



Catalog cards contain a great deal of information. To see how familiar you are with this information, indicate below what each numbered segment on the above card tells you about the book. As an example, number one is already filled in with two possible answers, either one of which is correct.

1. tells you who wrote the book
   or
   the name of the author of the book

2. tells you _____

3. tells you _____

4. tells you _____

5. tells you _____

6. tells you _____

Number the following in the order you would find them in a card catalog.

7. ____Frosting
   ____Frost, Robert
   ____Frost in May
   ____FS, Feminist Studies

8. ____The witch
   ____Cat and mouse
   ____These, Margaret
   ____Another tomorrow

9. ____New times
   ____Newspapers
   ____New York
   ____Newark

Circle the number for any of the following materials which you cannot locate using the EMU main card catalog:

10. corporation annual reports
11. telephone books
12. newspaper articles

13. Number the following call numbers in the order they would appear on the shelves:

___HV	___HV	___HV	___HV	___HV	___H
2541.5	2541	256	2541	2541	260
.N12	.M45	.M39	.M5	.N25	.M2

14. to 18.

PADUA. University. See Colleges and universities—Italy
PAHLEVI, Mohammed Reza, Shah of Iran. See Mohammed Reza Pahlevi
PAINTING
See also
Color
Study and teaching
Painting techniques and styles. R. Henkes. Il Design (US) 79:32-5 Mr '78
PAINTING, American
See also
Knowles, C.

PARTICLES
Quark catalysis of exothermal nuclear reactions. G. Zweig. bibl il Science 201:973-9 S 15 '78
Upsilon prime; 10 GeV excited state. Sci News 114:196 S 16 '78
Beams
See Particle beams
PARTITIONS
Dividers to dress up the front door. T. H. Jones. Il Mech Illus 74:52+ S '78
PASSENGER service on airlines. See Airlines—Passenger service
PASTEURIZATION of milk. See Milk—Pasteurization

To see how familiar you are with the information contained in a periodical index such as Readers' Guide to Periodical Literature, indicate what each of the following segments from the example above tells you about the material:

14. "PARTICLES" _____

15. "G. Zweig" tells you _____

16. "il" tells you _____

17. "201" tells you _____

18. "S 15 '78" tells you _____

Four singing ladies. P. Reilly Il Stereo R 41:138 S '78
Irving Berlin is ninety; Say it with music. Monmouth/Evergreen recording. P. Reilly. Il por Stereo R 41:146 S '78
Pop/rock. Il Hi Fi 28:138-9+ My; 130-1+ Jl; 122 Ag; 140 S '78
Popular records (cont) D. Watt. New Yorker 54:126-8+ Mr 13; 90-3 My 29; 146+ S 18 '78
Record reviews. See Issues of Essence
Musical comedy, revue, etc.
Popular records (cont) D. Watt. New Yorker 54:126-8+ Mr 13; 90-3 My 29; 146+ S 18 '78
Wallermania; RCA's recording of Ain't misbehavin'. P. Weiss. Il pors Stereo R 41:72-3 S '78

PHOTOGRAPHIC industry
Antitrust cases
Strange case of Kodak's lawyers. W. Kiechel. 3d. Il Fortune 97:188-90+ My 8 '78
Japan
Far East journal: Asahi Pentax. C. Marah. Il Peter Phot Mag 7:24 S '78
PHOTOGRAPHY
No private preserves in photography; it's O.K. to emulate the masters. P. C. Yob. Il Peter Phot Mag 7:46-7+ S '78
Photography. O. Edwards. Sat R 5:40-1 F 18; 46-7 Ap 15; 28-9 My 13; 20-1 Jl 8; 28-31 Jl 22; 30-1+ S 16 '78

19. The excerpt above is from a periodical index. If you wanted to determine whether the periodical article in the box is available in a library, you would check that library's list of periodicals under:

a. Kiechel
b. Antitrust
c. Fortune
d. Photographic
e. Strange

20. What is a bibliography?

a. a map showing library locations
b. a list of writings
c. a directory of publishers
d. a book or article about a person

21-26. You often find lists of additional reading materials at the ends of textbook chapters and journal articles. For each item in the following list, fill in the letter from the table below that describes the type of material. As an example, No. 21 is correctly answered.

a. book
b. periodical article
c. newspaper article
d. encyclopedia article
e. U. S. government publication

21. d Encyclopedia Americana, 1973 ed. "Cameron, Julia Margaret," by J. K. Brady.

22. _____ Dyer, James Madison. Julia M. Cameron, Photographer. New York: Charles Scribner's Sons, 1971.

23. _____ "The Early Victorian View of Reality." New York Times, 12 August 1975, p. 105.

24. _____ Pierce, Edgar. "Julia Margaret Cameron: Victorial Closeup." Ms 4 (September 1975): 26-29.

25. _____ Wentworth, Marie. "The Influence of the Early Photographs of Julia Cameron on Contemporary London Newspapers." Historical Review 19 (Fall 1975): 87-99.

26. _____ Wright, Mary DeVries and Stangel, G. Gordon. The Julia Cameron Legacy. London: Longmans, 1961.

27. Abstracting services (e.g., Psychological Abstracts, Biological Abstracts) provide, in addition to a citation to the material, _____.

a. The year of the author's birth
b. A critical review of the material
c. The call number
d. A summary of the material
e. The complete text of the material

28. Articles are indexed in the Readers' Guide to Periodical Literature under:

a. subject of article
b. authors of article
c. title of article
d. title of magazine
e. a and b
f. a, b, and c

29. If you use the New York Times Index to gather information on the assassination of President John F. Kennedy, you will find:

    a. summaries of articles from the New York Times newspaper that deal with this topic
    b. summaries of articles from the New York Times and other major U. S. newspapers that deal with this topic
    c. summaries of articles that deal with this topic in the New York Times and other major U. S. newspapers as well as a few major magazines
    d. authors and titles of articles from the New York Times newspaper that deal with this topic.

30. To locate material most effectively in an encyclopedia:

    a. scan the table of contents
    b. start with the first volume on the shelf
    c. look up the topic you wish in its alphabetical place in the set
    d. consult the list of authors in the preface
    e. use the index to the entire set

31. The U. S. government publishes materials in the following subject area(s):

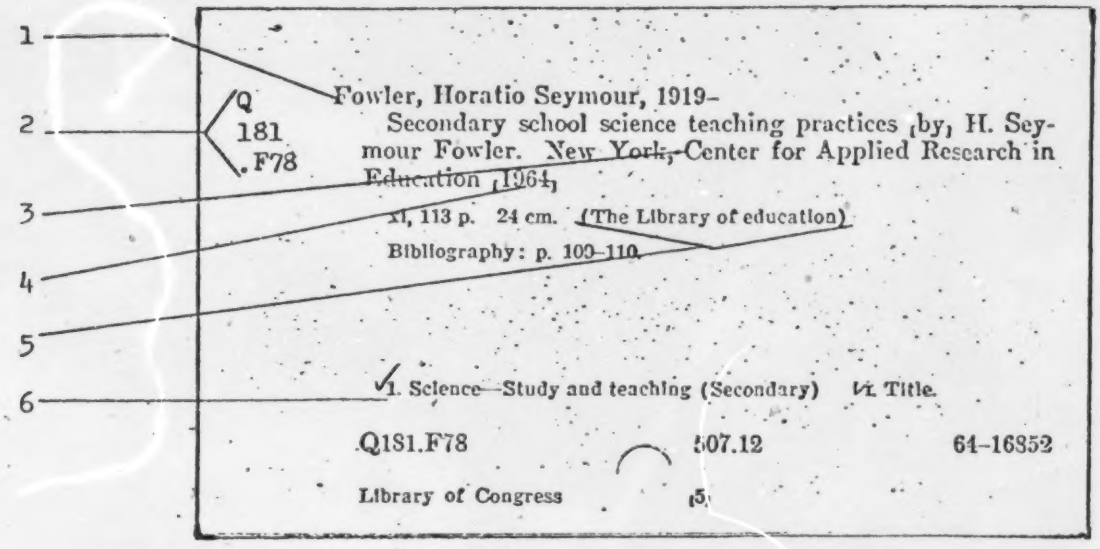
    a. U. S. laws
    b. education
    c. medicine
    d. U. S. government organizations
    e. a and d
    f. all of the above

32. The Superintendent of Documents numbering system for U. S. Government publications is based on:

    a. subject
    b. title
    c. issuing agency (government author)
    d. date of publication

EASTERN MICHIGAN UNIVERSITY
EDM/ENG 200 Winter, 1979

POST-TEST



Catalog cards contain a great deal of information. To see how familiar you are with this information, indicate below what each numbered segment on the above card tells you about the book. As an example, number one is already filled in with two possible answers, either one of which is correct.

1. tells you who wrote the book
   or
   the name of the author of the book
2. tells you _____
3. tells you _____
4. tells you _____
5. tells you _____
6. tells you _____

Number the following in the order you would find them in a card catalog.

7. _____ Shakespeare without tears	8. _____ A day to die	9. _____ Do inlaws care?
_____ Shakes	_____ Abelard and Eloise	_____ Doing time
_____ Shakespeare, William	_____ To be a baker	_____ The doe runs
_____ S. R. O.	_____ Abe Lincoln	_____ Drop off

List three parts of the collection that you could not locate using Eastern's main card catalog.

10. _____

11. _____

12. _____

13. Number the following call numbers in the order they would appear on the shelves:

____R	____R	____R	____R	____R	____R
22	2	2	2.2	2	2.2
.A5	.A63	.A435	.A2	.A6328	.A12

14-18. To see how familiar you are with the information found in a periodical index such as the Reader's Guide to Periodical Literature, indicate what each of the following segments from the example below tells you about the material.

PERRY, Robert L.
Tuning in on the ghost beam. il Pop Mech 150: 92:4+ S '78
PERSONNEL management
See also
Employees—Dismissal
PERTINI, Alessandro
Italy's Marxist president. M. Martinez. Nat R 30:1144 S 15 '78 •
PETER, Saint
Christianity's first history book. J. K. Elliott. il pors map Hist Today 28:493-9 bibl(p557) Ag '78 •
PETERS, Frank Lewis, 1930-
Opera Theatre & its Tree of chastity. il Hi Fi 28:MA35-6 S '78
PETERSON, Faye
Vaccine recommendations. il FDA Consumer 12: 10-14 Jl '78
PETIT Jean State Park. See Arkansas—Parks and reserves

PHILADELPHIA
Economic conditions
Maybe W. C. Fields was wrong about Philadelphia. J. S. Byrne. il por Forbes 122:94-5 S 18 '78
PHILBIN, Tom
Framing fasteners. il Workbench 34:74-6 O '78
PHILIPPINES
Foreign relations
Russia
See Russia—Foreign relations—Philippines
United States
See United States—Foreign relations—Philippines
PHILLIPS, Dickson
How not to pick a judge. S. Levinson. Nation 227:262-3 S 23 '78 •

14. "Peter, Saint" tells you _____

15. "J.K. Elliott" tells you _____

16. "Hist Today" tells you _____

17. "bibl" tells you _____

18. "493-9" tells you _____

19.

BOSTON
City planning
NAACP to HUD: see you in court. L. Grant. il Black Enterprise 9:15 S '78

BOSTON Tea Party, 1773
Tax revolt—an old American tradition. W. L. Katz. il Sr Schol 111:12-15 S 7 '78

BOSWELL, James
Boswell, Rousseau and Voltaire. S. Andrews. il por Hist Today 28:507-15 bibl(p557) Ag '78 *

BOUTELLE, Ann
Suspense in pregnancy. Vogue 168:307-8+ S '78

BOUTON, James Alan. See Bouton, Jim

BOUTON, Jim
Old 56 comes back at 39. F. Deford. por Sports Illus 49:50-60 S 18 '78 *

BOWDEN, Henry Lumpkin
Lawyer's advice to a college about Bakke; address, August 2, 1978. Vital Speeches 44:687-90 S 1 '78

BROOKHISER, Richard
Massachusetts is the most . . . Nat R 30:1142-3 S 15 '78
Why you can't beat City Hall at Washington, D.C. Nat R 30:1199-1200+ S 29 '78

BROOKINGS Institution
Two think tanks with growing impact. il U.S. News 85:47-8 S 25 '78

BROOKLYN
Blacks
Black rage grows in Brooklyn; Crown Heights. K. Moses. il Black Enterprise 9:17 S '78
Children's Museum
See Childrens museums
Crime
Black rage grows in Brooklyn; Crown Heights. K. Moses. il Black Enterprise 9:17 S '78

The excerpt above is from a periodical index. To determine whether the citation in the box is available in a library, you would check that library's list of periodicals under:

a. NAACP
b. Boston
c. Grant
d. City
e. Black

20. Describe briefly what is meant by the term "bibliography." _____

_____

_____

_____

21-26. For each item in the following list, fill in the letter from the table below that describes the type of material. As an example, number 21 is correctly answered.

a. book
b. article or chapter in a book
c. periodical article
d. newspaper article
e. encyclopedia article
f. U.S. government publication

21. e World Book Encyclopedia, 1978 ed. S.v. "Hindu Religion."

22. ____ Appley, Rose A. "Hiroshima's Rebuilt Churches, Shrines, and Temples." Oriental Architecture Review 7 (January 1976): 597-641.

23. ____ Crane, Gerald B. Shinto Today. London: Blackie, 1970.

24. ____ Croninshield, Nathaniel. Oriental Religions Compared. New York: Little, Brown, 1968.

25. ____ "Diplomats from Orient Find Worship Convenient Here." Washington Post, 14 April 1977, sec. B, p. 8.

26. ____ Granger, Simon Keith. "Buddhist Temples of Tokyo." Orient 44 (December 1973): 113-41.

27. The type of publication to consult to get a brief factual summary of an article as well as a citation to it is:
    a. an abstracting service (e.g., Sociological Abstracts)
    b. a periodical index (e.g., Art Index)
    c. a quotation book (e.g., Bartlett's Familiar Quotations)
    d. a dictionary (e.g., Webster's Third New International Dictionary)

28. T or F: Articles are indexed alphabetically in the Reader's Guide to Periodical Literature only by subject and by author.

29. T or F: The New York Times Index provides a brief summary of the articles which have appeared in the New York Times newspaper.

30. T or F: To locate material most effectively in an encyclopedia you should consult the index to the entire set of volumes.

31. The U.S. government publishes materials in the following subject area(s):
    a. agriculture
    b. any subject investigated by a Congressional committee
    c. crime
    d. federal regulatory agencies
    e. all of the above
    f. b and d

32. T or F: The Superintendent of Documents numbering system for U.S. government publications arranges material according to issuing agency.

Name	Term GA	Class	College	Age group	Interruptions	Enroll date (T= transfer)	Entering GPA	ES 200 grade	Grades in concurrent courses, excluding labs, studios, and phys. ed. activities courses (Grade average for the other students in the same section)					Total credit hours	No. of courses
	2.0	3	A&S	4	20 to '78	78 T	4.0	A	LIT 101 C (1.78)					5	2
	2.75	3	BU	1	--	76	3.52	A	SPH 359 A (2.86)	ACC 341 D (2.43)	ACC 344 B (2.91)	ORI 365 B (3.0)		15	6
	2.4	2	BU	4	5; 4 to '78	78 T	2.4	B	ECO 202 C (missing)	ADS 303 C (2.47)	MGT 302 B (2.81)	MGT 382 C (2.48)	MKT 360 B (2.5)	17	6
	3.33	3	A&S	2	--	75 T	2.74	C	PSY 205 C (2.57)	PSY 361 A (2.76)	SOC 204 A (2.54)			12	5
	3.0	4	HS	3	6 to '76	76	2.16	C	ECO 200 A (2.0)	SOC 250 D (2.39)	SWK 431 A (3.64)	SWK 418 B (3.5)		14	5
	3.75	2	HS	4	12; 1; 1 to '78	78 T	3.75	A	ENG 121 A (2.11)	SOC 105 B (2.08)	SPH 227 A (3.11)	HUM 152 A (2.14)		14	5
	3.25	3	BU	1	--	76	3.34	A	MTH 239 B (3.11)	MKT 360 B (2.0)	ORI 365 B (3.0)	ORI 417 A (3.33)	ADS 214 Pass	15	6
	3.0	1	ApS	1	--	79 T	2.78	A	CHM 131 W	LIT 100 B (2.5)	PHY 221 B (3.0)			9	3
	1.0	1	ED	2	1; 4 to '78	78 T	3.0	B	PLS 112 C (2.62)	SOC 105 E (2.69)				8	3
	3.5	4	ED	2	--	75	3.02	A	ECO 200 A (3.67)	EDM 344 B (3.17)	SLD 468 A (3.49)	SMI 358 B (3.39)		12	6

APPENDIX E

```
          ***** CORRELATION MATRIX *****

 VAR.
TGA        1.0000
EE         0.6353   1.0000
EGPA       0.2797   0.4336   1.0000
CH        -0.2378  -0.2676  -0.1636   1.0000
NO.       -0.2036  -0.2323  -0.1150   0.9587   1.0000

            TGA      EE       EGPA     CH       NO.


WHICH COMMAND? STEPR

LIST THE OPTIONS YOU WISH SEPARATED BY COMMAS



LIST THE INDEPENDENT VARIABLES?

2,3,4,5
WHICH IS THE DEPENDENT VARIABLE? 1



          ***** STEPWISE REGRESSION *****

 5 VARIABLES; VARIABLE: TGA   IS DEPENDENT

STANDARD ERROR OF Y =  0.8687051



STEP NO.  1
ENTERING VARIABLE: EE
  F-LEVEL      20.97744        WITH PROB.  0.0001
  STANDARD ERROR OF ESTIMATE  0.6816163
  COEFFICIENT OF DETERMINATION =  0.4035874
  COEFFICIENT OF MULTIPLE REGRESSION =  0.6352853
  INCREASE IN COEFFICIENT OF DETERMINATION =  0.4035874
  CONSTANT  1.1809

VARIABLE   COEFFICIENT      STD ERROR OF COEFF.
 EE           0.4958716        0.1082662
```

STEP NO. 2
ENTERING VARIABLE: CH
F-LEVEL 0.2509653 WITH PROB. 0.6198
STANDARD ERROR OF ESTIMATE 0.6900033
COEFFICIENT OF DETERMINATION = 0.4085353
COEFFICIENT OF MULTIPLE REGRESSION = 0.6391677
INCREASE IN COEFFICIENT OF DETERMINATION = 0.4947908E-02
CONSTANT 1.3871

VARIABLE	COEFFICIENT	STD ERROR OF COEFF.
EE	0.4806249	0.1137457
CH	-0.1549553E-01	0.3093140E-01

STEP NO. 3
ENTERING VARIABLE: NO.
F-LEVEL 0.5402927E-01 WITH PROB. 0.8177
STANDARD ERROR OF ESTIMATE 0.7011462
COEFFICIENT OF DETERMINATION = 0.4096352
COEFFICIENT OF MULTIPLE REGRESSION = 0.6400275
INCREASE IN COEFFICIENT OF DETERMINATION = 0.1099899E-02
CONSTANT 1.3902

VARIABLE	COEFFICIENT	STD ERROR OF COEFF.
EE	0.4782344	0.1160392
CH	-0.3950581E-01	0.1079718
NO.	0.6172116E-01	0.2655336

STEP NO. 4
ENTERING VARIABLE: EGPA
F-LEVEL 0.5175451E-03 WITH PROB. 0.9820
STANDARD ERROR OF ESTIMATE 0.7135503
COEFFICIENT OF DETERMINATION = 0.4096461
COEFFICIENT OF MULTIPLE REGRESSION = 0.6400360
INCREASE IN COEFFICIENT OF DETERMINATION = 0.1091510E-04
CONSTANT 1.4039

VARIABLE	COEFF.	STD.ERR. OF COEFF.	STANDARDIZED COEFFICIENT	T-VALUE	PROB.
EE	0.4794	0.1290	0.6142049	3.715	0.001
EGPA	-0.6005E-02	0.2640	-0.3700210E-02	-0.2275E-01	0.982
CH	-0.3985E-01	0.1109	-0.1877244	-0.3593	0.722
NO.	0.6249E-01	0.2723	0.1185943	0.2295	0.820

APPENDIX F

Eastern Michigan University
Center of Educational Resources

EDM/ENG 200
Information Seeking in the Library

Section:_____
Check one: Freshman ___
Sophomore ___
Junior ___
Senior ___

1. How do you evaluate the way the course was taught? (Comment on course organization, lectures, readings/handouts, worksheet assignments, as you wish.)

All students said that the course was organized and taught well. They found the handouts very helpful. They appreciated having individualized assignments, and found them challenging; some thought they were too time-consuming. Visiting instructors got mixed reviews.

2. Which type of material do you feel deserved more class time? (For example, indexes, card catalog, government publications, etc.)

Several people suggested that more time be spent on government publications. Many commented that time allocation was just right.

3. Would you recommend the course to another student? Why or why not?

All students would strongly recommend the course to another student; some thought it should be required. "This is one of the most useful courses I've ever taken." "I just wish I had had it sooner."

4. Any other suggestions or recommendations?

1. Make it a 3-credit course to provide for more work time in class, or else shorten the homework assignments.

2. Provide samples demonstrating how to do the worksheets.

3. This course works better in a full-length term (Fall or Winter) than in the 7½-week Spring term.

APPENDIX G

REVISED LIBRARY NEEDS SURVEY

Do you need these services or facilities when you use a library for course assignments?

1. Materials that can be borrowed. . . A often
   B sometimes
   C rarely

2. Materials (other than Reserves) that must be used in the building. . . A often
   B sometimes
   C rarely

3. Reserve materials. . . A often
   B sometimes
   C rarely

4. Late open hours on weekday evenings (Monday - Thursday). . . A often
   B sometimes
   C rarely

5. Extensive open hours on weekends (Friday - Sunday). . . A often
   B sometimes
   C rarely

6. Help from a librarian. . . A often
   B sometimes
   C rarely

7. A quiet place to study. . . A often
   B sometimes
   C rarely

8. A place to study with a group. . . A often
   B sometimes
   C rarely

9. A place to have a snack. . . A often
   B sometimes
   C rarely

10. Photocopying facilities. . . A often
    B sometimes
    C rarely

11. Typewriters. . . A often
    B sometimes
    C rarely

Please turn the page and answer the following questions about yourself:

12. How often do you use a library for course work?
A at least once a week
B at least once a month
C rarely

13. What library do you use most often for your course work?
A EMU library
B another college or university library
C a public library

14. Do you have a full-time job?
A yes
B no

15. Do you have a part-time job?
A yes
B no

16. Class level:
A freshman
B sophomore
C junior
D senior
E graduate

17. Age group:
A 20 or under
B 21 - 25
C 26 - 30
D 31 or over

18. Residence:
A EMU dormitory
B near EMU campus (walking distance)
C too far to walk

19. Has your college or graduate education been delayed or interrupted by a year or more?
A yes, 5 or more years
B yes, 1 - 4 years
C no

20. Many EMU professors bring their classes to the library for library skills instruction sessions. Have you had any such instruction?
A yes
B no

21. If you answered Yes, did you find the session useful?
A yes
B no

22. If a credit-bearing course in library research skills were offered, would you want to take it?
A yes
B no

23. From which unit do you expect to graduate?
A College of Arts & Sciences
B College of Business
C College of Education
D College of Human Services
E Applied Sciences Division

24. Latest Grade Point Average:
A 2.4 or lower
B 2.5 - 3.4
C 3.5 or higher

25. Academic load (full-time minimum is 12 credit hours for undergraduates, 8 credit hours for graduate students):
A full-time
B part-time

26. Is this your first year at EMU?
A yes
B no